

Pedestrian and Bicycle Safety Program Review – County Council

October 2, 2014



Agenda

- Overview
- Data Trends
- The Three E's
 - Education
 - Engineering
 - Enforcement

The Big Picture



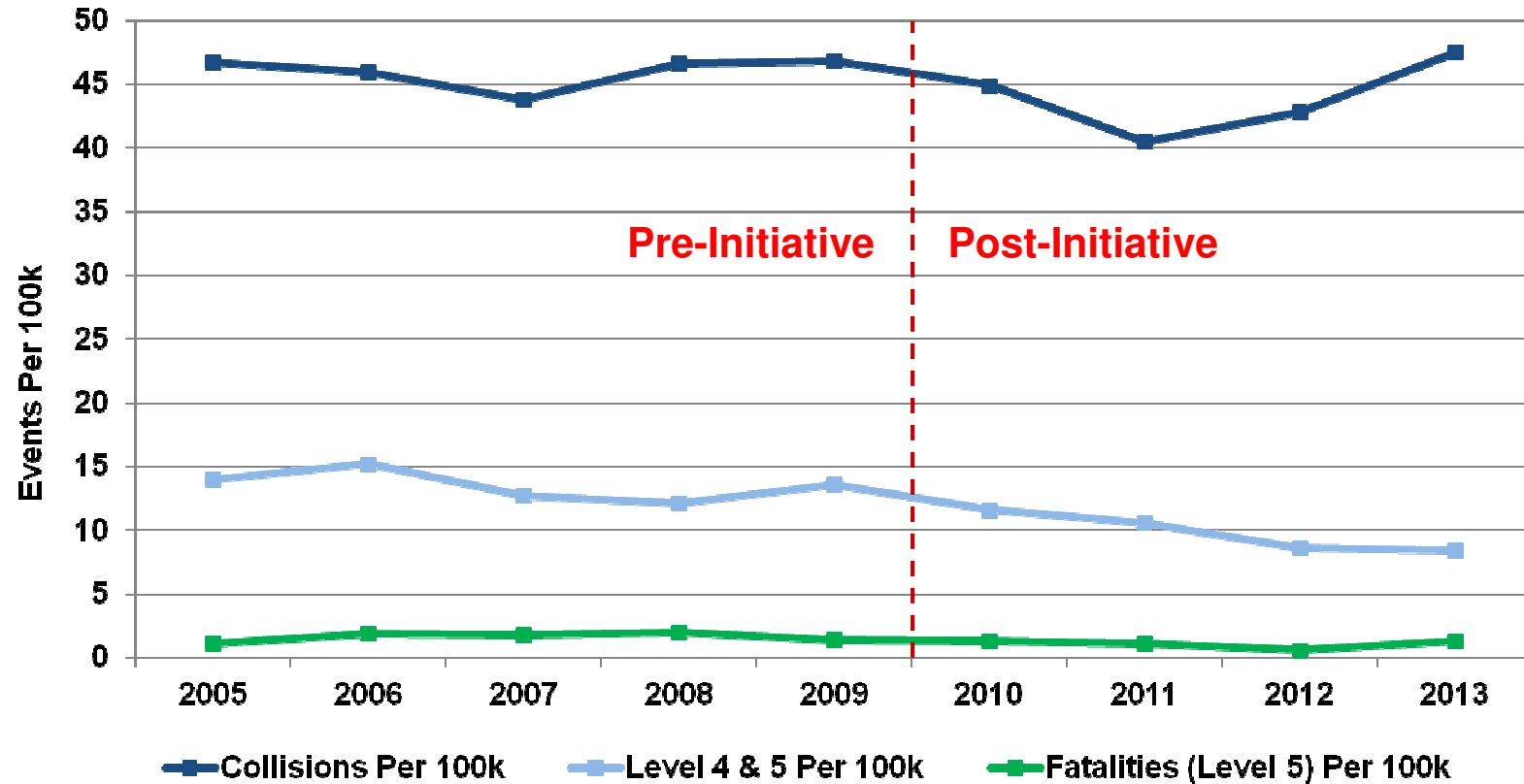
- **The targeted strategies employed result in reduction of pedestrian collisions**
- **Total # of collisions increased in 2013, but:**
 - **Increase was in Level 1 and Level 2 collision (no injury reported or only minor injury)**
 - **Severe collisions (Level 4 & 5) continue to decrease**
- **The sharpest increase in collisions has been on State roadways**
- **Broader & more sustained county-wide education and enforcement efforts are needed**
 - **Enforcement activities current rely on overtime funding as opposed to dedicated personnel**

Montgomery County Pedestrian Collisions and Fatalities



	2005	2006	2007	2008	2009	2010	2011	2012	2013	Pre-Initiative Average (2005-2009)	Post-Initiative Average (2010-2013)	Change
January	36	31	32	48	34	34	28	40	50	36	38	+6%
February	28	28	33	30	37	39	27	36	38	31	35	+13%
March	37	28	34	37	31	33	38	27	36	33	34	+3%
April	26	25	35	34	28	33	36	27	43	30	35	+17%
May	27	36	34	47	46	33	28	36	40	38	35	-8%
June	41	33	29	24	41	33	17	35	35	34	30	-12%
July	24	29	20	37	36	33	24	23	30	29	28	-3%
August	28	37	26	36	32	26	33	31	36	32	32	0%
September	39	39	38	35	30	41	32	35	41	36	37	+3%
October	48	42	37	31	41	44	43	44	56	40	47	+10%
November	48	49	60	38	46	43	42	48	40	48	43	-18%
December	52	52	34	47	52	44	51	41	38	47	44	-6%
Total Collisions	434	429	412	444	454	436	399	423	483	435	435	0%
Per 100,000	46.7	45.9	43.8	46.6	46.8	44.9	40.5	42.8	47.5	46.0	43.9	-5%
Level 4 & 5 Collisions (% of total)	130 (30%)	142 (33%)	119 (29%)	115 (26%)	132 (29%)	113 (26%)	104 (26%)	82 (19%)	85 (18%)	128	96	-25%
Per 100,000	14.0	15.2	12.7	12.1	13.6	11.6	10.6	8.6	8.4	13.5	9.8	-27%
Total Fatalities*	10	18	17	19	14	13	11	6	13	16	11	-31%
Per 100,000	1.1	1.9	1.8	2	1.4	1.3	1.1	0.6	1.3	1.6	1.1	-31%

Pedestrian Safety Trends Per 100k Population

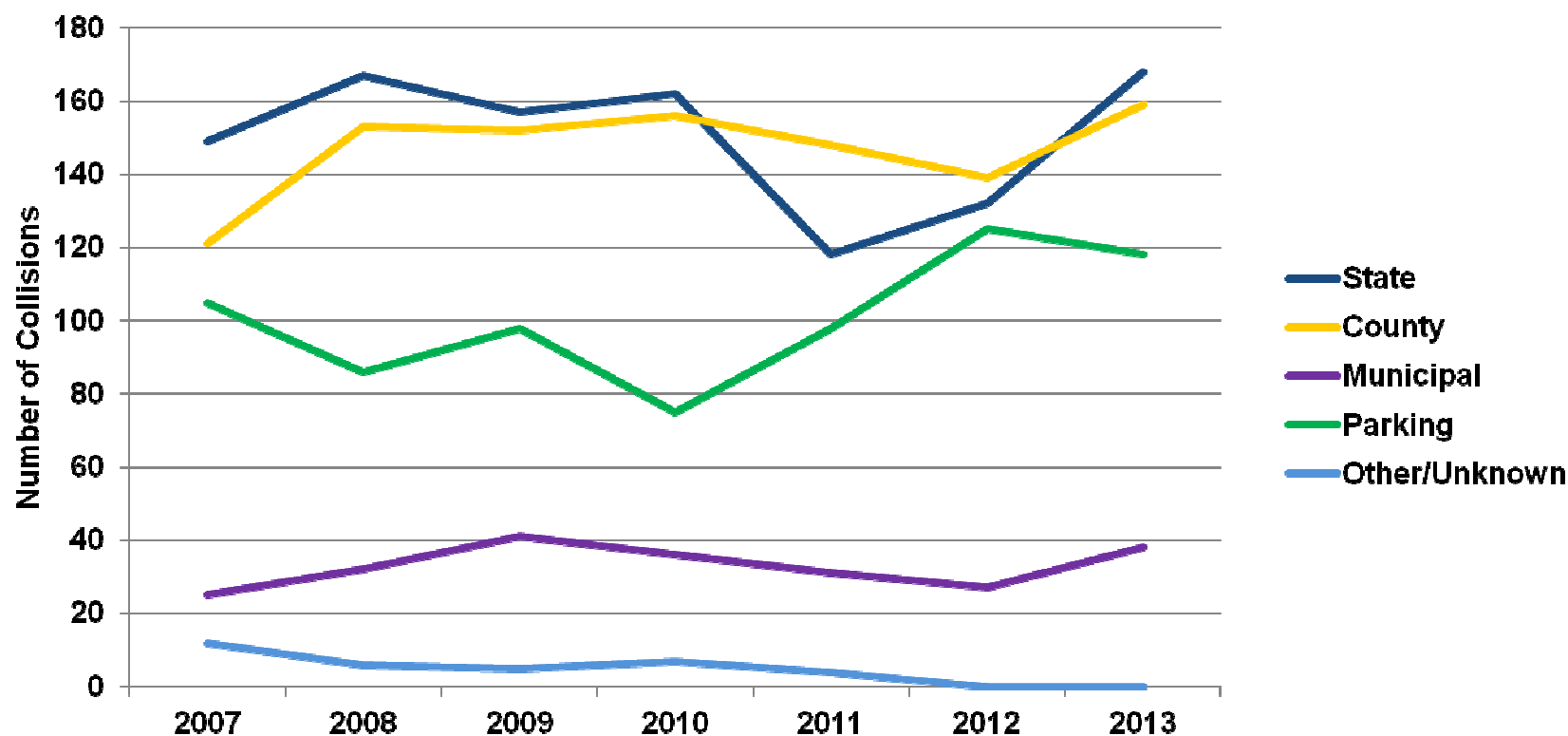


The data suggest that the Pedestrian Safety Initiative has been successful in reducing severe collisions (Level 4 & 5).

Level 4 = Injury – Incapacitated or disabled
Level 5 = Fatal



Collisions by Roadway Type



In 2013, a plurality of collisions occurred on state maintained roadways which also represented the greatest increase in pedestrian collisions. Parking lot collisions rose sharply from 2010 to 2012 before dropping slightly in 2013. This may be an indication that the recently implemented parking lot initiative is working.

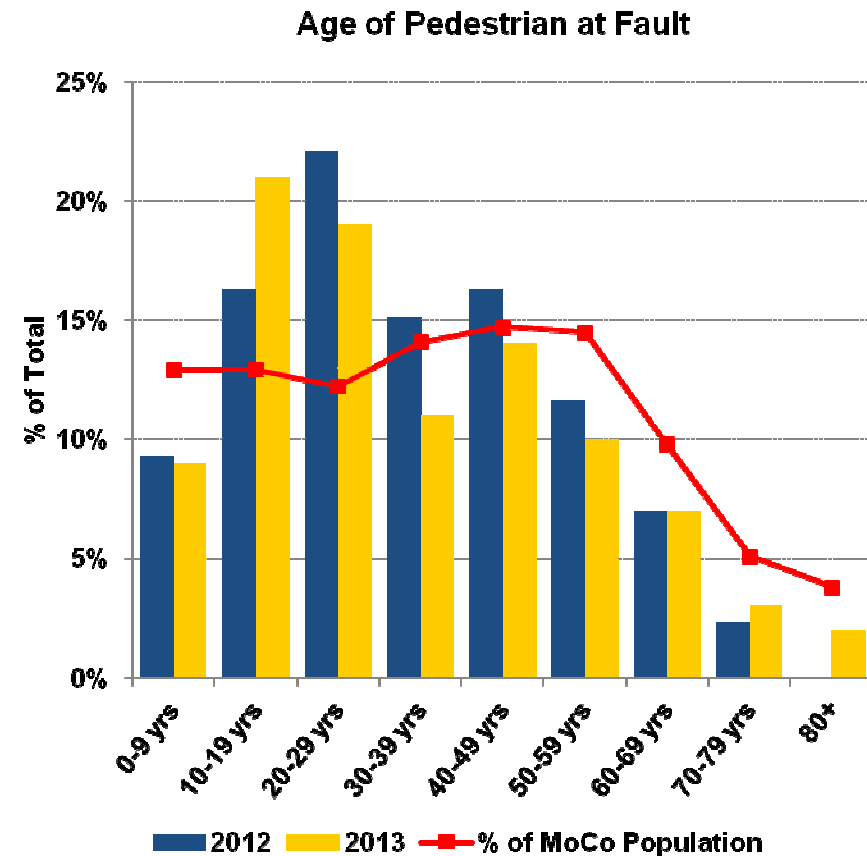
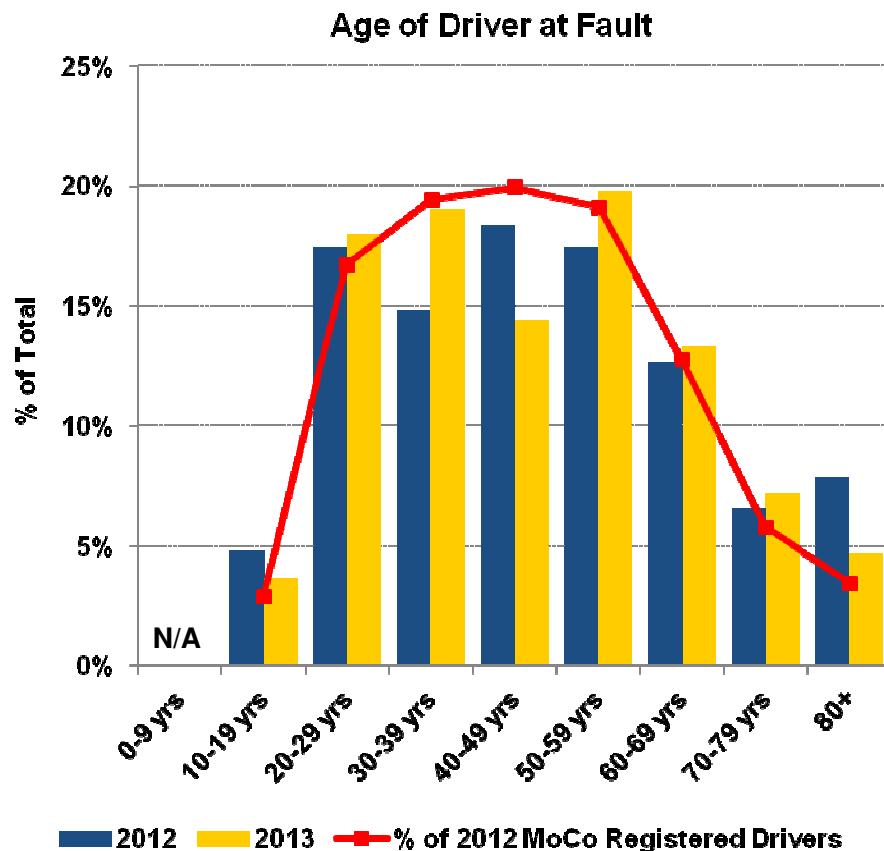
Pedestrian Safety Program



- *Education*
- Engineering
- Enforcement



Pedestrian Collision Variables: Fault

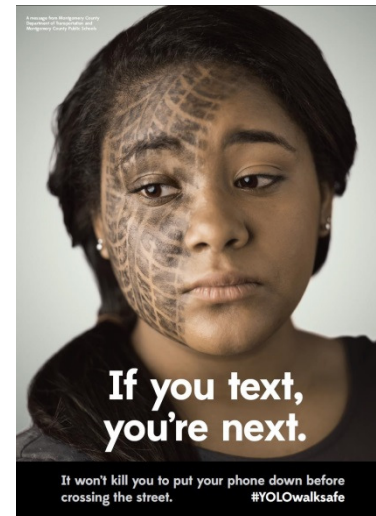


Pedestrians at fault between the ages of 10 and 29 are over-represented compared to their share of the population as a whole..

Pedestrian Safety Education in High Schools



- **FY 14 & FY 15: \$100,000 appropriated for High School Pedestrian Safety Education;**
- **Walk Your Way Project launched in late October – awarded grants to 4 high schools and 1 youth serving nonprofit agency**
 - **B-CC, Wheaton, Northwood, and Richard Montgomery High Schools**
 - **Leadership Institute**

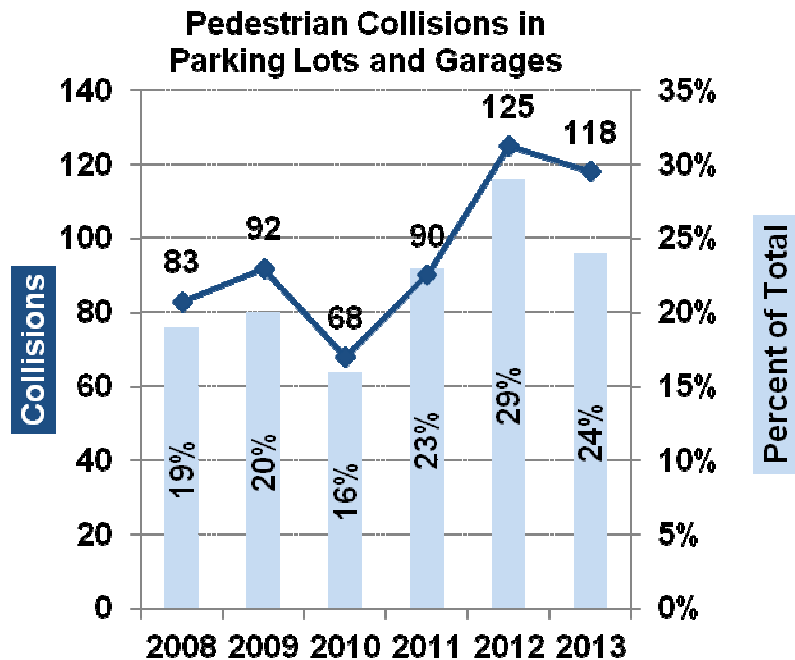


- **YOLO campaign – “Tool Kit” and website made available to all schools in fall 2014**
- **Partnership with MCPS Office of Communications, School Principals, PTSAs**

Collisions in Parking Lots/Garages



In 2013, these incidents represented 24% of all pedestrian collisions.



- 69% - driver at fault
- 17% - pedestrian at fault
- 14% - both driver and pedestrian at fault
- 83% - Level 1, 2, or 3 collisions
- 17% - Level 4 and Level 5

MCPD and DOT do not have jurisdiction to implement enforcement and engineering methods normally used on public-owned roadways. The County is restricted to education efforts and rely significantly on business owners and developers to address engineering and enforcement.

Parking Lot Education Campaign: Heads Up In Parking Lots

- Close and ongoing partnership with parking lot owners / managers
- Transit shelter / bus advertisements
- Public Service Announcements (PSAs)
- Fliers / Posters
- Resource Website
- Curb markers
- Shop with a Cop...or Firefighter
- Social media toolkit



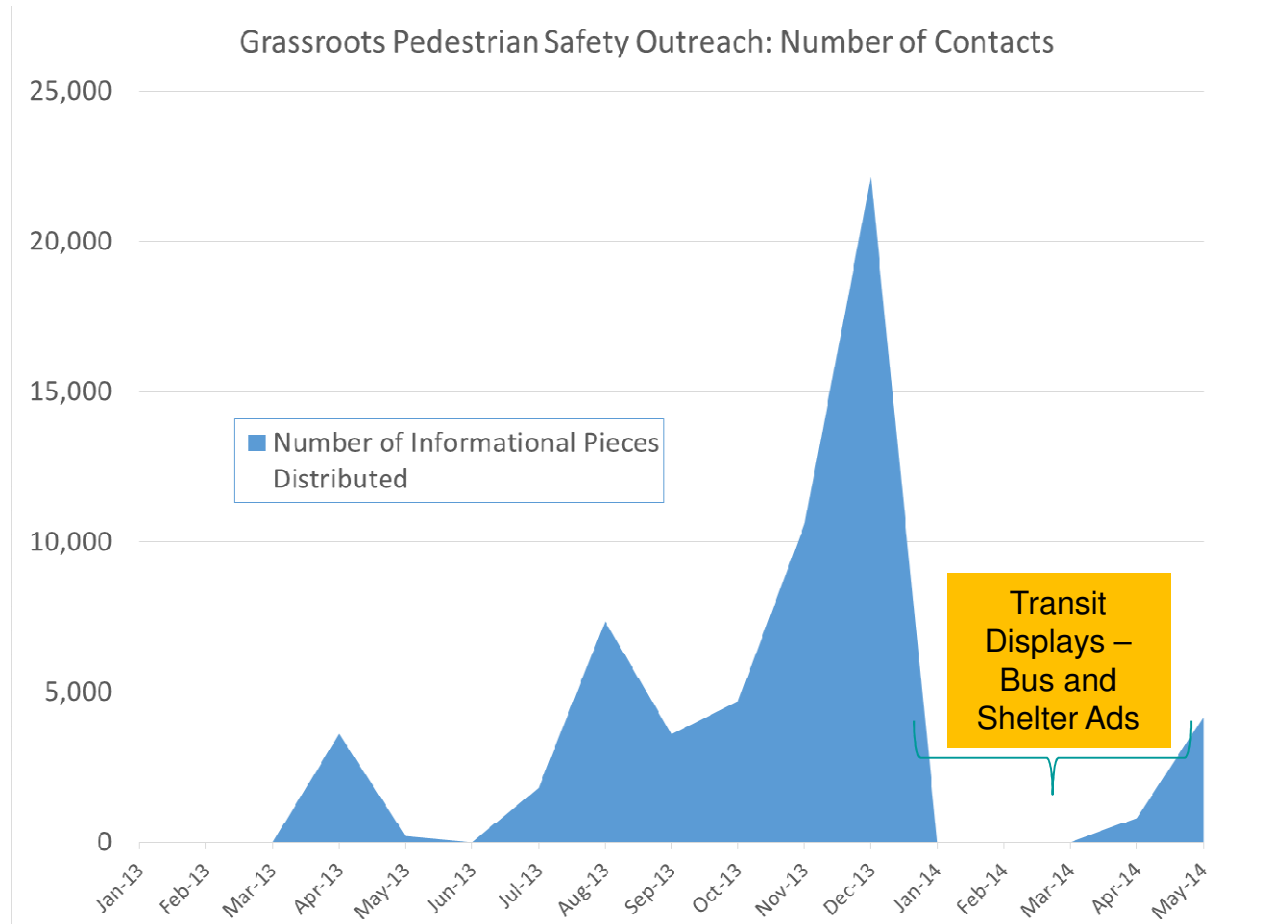


Pedestrian Safety Education

- Street-level outreach in Wheaton/Aspen Hill (*April – May 2013*)
- Regional Street Smart campaign (*annually Spring and Fall*)
- Pedestrian Graphic Novel Campaign (*Dec. 2013 – May 2014*)
- Street-level outreach in Bethesda/Silver Spring (*Aug.–Nov. 2013 and May–June 2014*)
- Volunteer Corps continues to grow
 - Initially launched for Randolph/Veirs Mill HIA



Pedestrian Safety Education Efforts



Street-level grassroots education efforts have been more active in the Spring, Summer, and Fall months. Transit advertising bridges the gap in grassroots efforts.

Source: MCDOT

Pedestrian Safety Program



- Education

- *Engineering*



- Enforcement

Pedestrian/Bicycle Safety & Mobility Programs



- High Incident Areas
- Safe Routes to School
- Corridor Traffic Calming
- Bikeways Program
- Sidewalk, ADA, and Bus Stops



High Incident Areas



- Pedestrian Road Safety Audits have been performed on 14 sections of roadways identified as High Incident Areas. Most along State highways
- MCDOT has shifted to only County roads. The two conducted in FY 14 were Fenton Street and Gude Drive
- MDSHA is now conducting PRSA and have done five in Montgomery County in the past year
- A trend appears to be emerging that crashes begin to increase as the HIA targeted actions wane

Collisions in High Incidence Areas

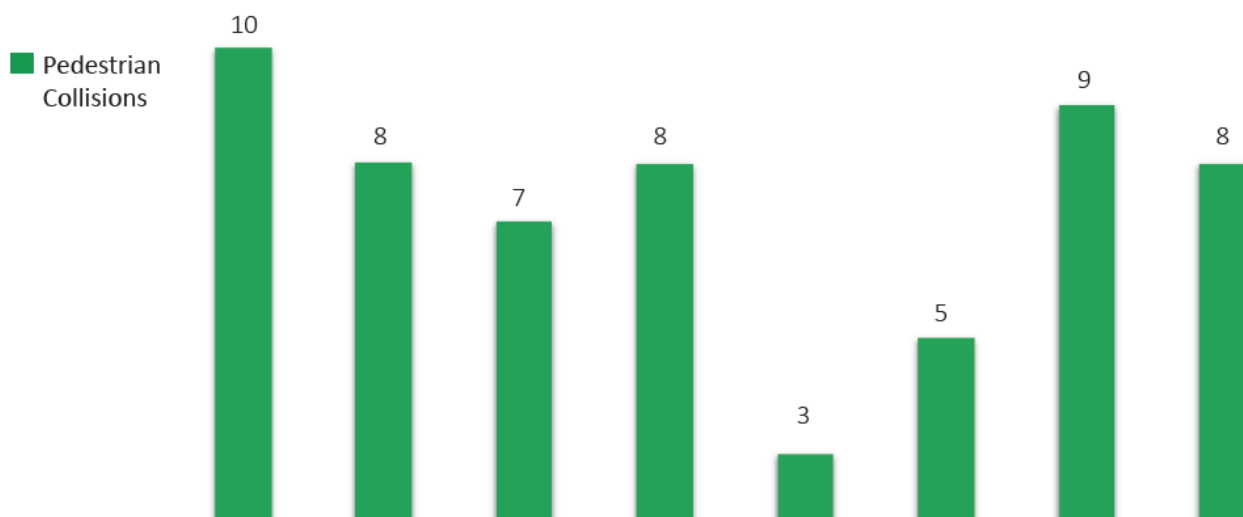
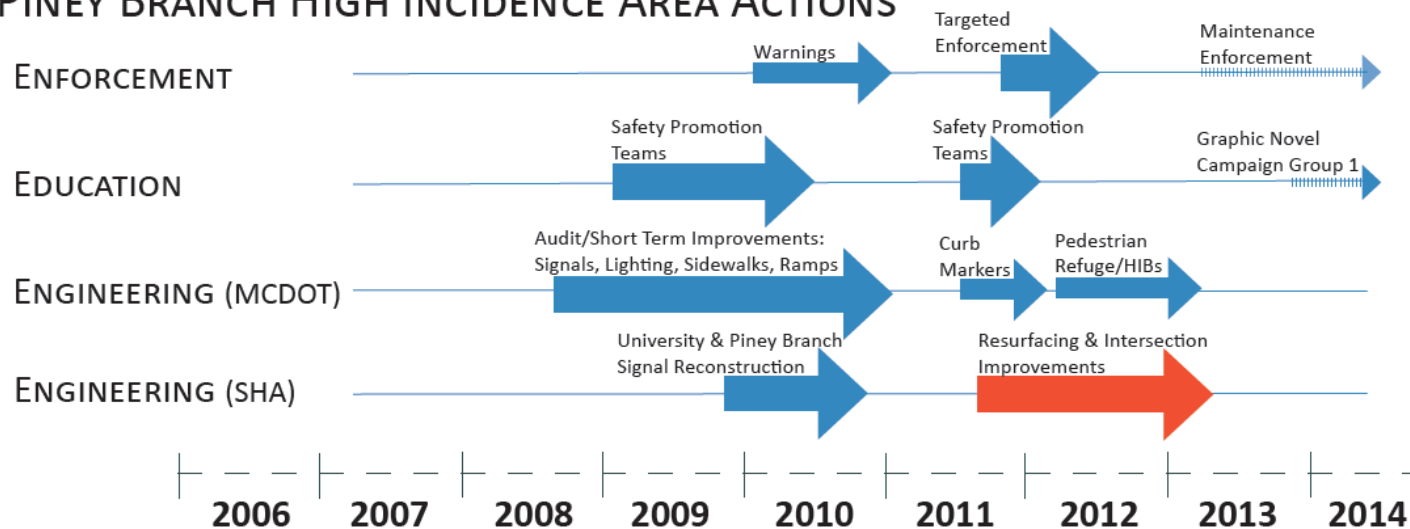


HIA	Number of Pedestrian Collisions											
	2006	2007	2008	2009	2010	2011	2012	2013	Total	Pre-Audit Average	Post-Audit Average	% Change
Piney Branch	10	8	7	8	3	5	9	8	58	9.0	6.6	-26.7%
Wisconsin	6	10	3	4	3	3	3	6	38	8.0	3.8	-52.5%
Georgia	7	5	7	10	4	4	2	11	50	6.3	5.3	-15.9%
Rockville Pike	4	3	9	8	2	3	2	4	35	5.3	2.8	-47.2%
Four Corners	4	7	5	0	1	3	0	3	23	4.0	2.0	-50%
Reedie	0	3	3	7	2	1	2	2	20	3.3	1.7	-48.5%
Randolph	2	1	4	4	1	2	3	1	18	2.8	2.0	-28.6%
Connecticut	4	5	6	2	2	3	3	3	28	3.8	3.0	-21.1%
Colesville	4	4	2	3	5	2	4	3	27	3.6	3.5	-2.8%
Old Georgetown	4	4	2	2	3	1	2	0	18	2.7	0.0*	-100%
Total	45	50	48	48	26	27	30	41	315			

Year of PRSA Audit



PINEY BRANCH HIGH INCIDENCE AREA ACTIONS





Safe Routes to School (SRTS): Overview

SRTS activities include:

- **ENGINEERING**

- Evaluate signing and marking for upgrades
- Establish suitable walking routes
- Work with schools to improve drop-off/pick-up operations
- Provide ADA ramps and improve sidewalk connectivity
- Install curb extensions and pedestrian refuge islands
- Consider parking restrictions to reduce pedestrian/vehicle conflicts

- **EDUCATION**

- Coordinate with schools to promote involvement in pedestrian & bicycle safety activities and programs (109 Elementary Schools & 31 Middle Schools).

- **ENFORCEMENT**

- Work with the police to implement targeted enforcement at schools during arrival/dismissal.



Safe Routes to School



■ Phase 1:

- ❑ All public schools will have had comprehensive assessments completed by end of 2014 to bring traffic control devices up to minimum standards
- ❑ Comprehensive assessments will be conducted for private schools in late 2014 and 2015
- ❑ Identified improvements include new and enhanced crosswalks, parking restrictions, circulation changes, new signing, and most recently physical changes such as bump-outs

■ Phase 2

- ❑ A second round of assessments will be done for all public schools expanding the scope to include signal operations and potential physical improvements

Safe Routes to School: Collision Update



Grant Schools	3 Years Before Treatment (2006-2009)			After treatment		
	Total Months Before	# of ped collisions	Collisions Per Month	Total Months After (up to Dec 2013)	# of ped collisions	Collisions Per Month
Grant B (11 Schools)	396	48	0.121	615	8	0.013
Grant C (6 Schools)	216	5	0.023	202	9	0.045
Grant D (5 Schools)	180	9	0.050	193	3	0.016
Total	792	62	0.078	1010	20	0.020

The data show that reductions in collisions have occurred in areas where Safe Routes to School Programs where all three “E’s” have been implemented. This represents a **75% decrease in pedestrian collisions**.

Corridor Traffic Calming



- Multiple large scale projects this year including: Plyers Mill Road; Wexford Drive / Denfeld Ave; Lockwood Drive
- Projects have effectively reduced speeds and pedestrian collisions
- MCDOT is more actively seeking community input to customize projects
- Working with DEP to incorporate storm water treatments when possible

Traffic Calming: Project Highlight

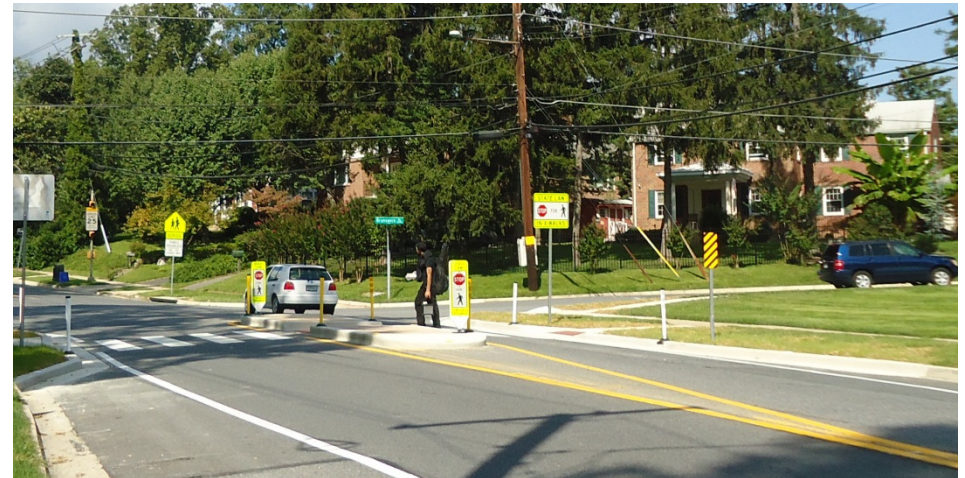
Plyers Mill Road Project



Before



After— Curb Extension with Ped Refuge Island



The traffic calming project has reduced travel speeds and provided enhanced pedestrian crossings along the roadway.

Traffic Calming: Collisions Update



Project Name	Completion Date	Speeds (MPH)			Time Period Before Treatment	Collisions 3 Years Before Treatment	Time Period (Months) Since Treatment	Collisions Since Treatment	Collisions Per Month
		Posted	Avg. Before	Avg. After					
Connecticut Ave	7-Jul	40	48	40	3 Years	10	77	5	0.065
Arcola Ave	8-Aug	30	42	32	3 Years	3	64	5	0.078
Fairland Rd	9-Jul	40	53	42	3 Years	2	53	0	0.000
Calverton Blvd	9-Jul	30	41	35	3 Years	1	53	1	0.019
Lockwood Dr	9-Jul	30	40	30	3 Years	0	53	1	0.019
Sligo Ave	9-Sep	30	34	31	3 Years	1	51	4	0.078
Carroll Ave	9-Nov	25	33	27	3 Years	2	49	1	0.020
Spartan Rd	9-Nov	30	40	33	3 Years	0	49	0	0.000
Dale Dr	10-Aug	30	39	34	3 Years	0	40	0	0.000
Prince Phillip Dr	11-Jun	30	36	31	3 Years	0	30	0	0.000
Waring Station Rd	12-Apr	30	38	34	3 Years	4	20	2	0.100
Cedar Ln	12-May	30	36	30	3 Years	0	19	0	0.000
Jones Bridge Rd	12-May	30	36	30	3 Years	0	19	0	0.000
Rainbow Dr	12-May	25	31	26	3 Years	0	19	0	0.000
Franklin Ave	12-Aug	30	34	33	3 Years	0	16	0	0.000
Galway Dr	13-Aug	25	N/A	N/A	3 Years	0	4	0	0.000
Homcrest Rd	13-Jul	25	36	33	3 Years	0	5	0	0.000
Collisions Per Month						0.113	Collisions Per Month (Weighted)		0.022

Speed decline >= 5mph

The data show that reductions in collisions have occurred in areas where traffic calming measures are deployed. This represents an **80% reduction in pedestrian collision**.

Bikeways Program



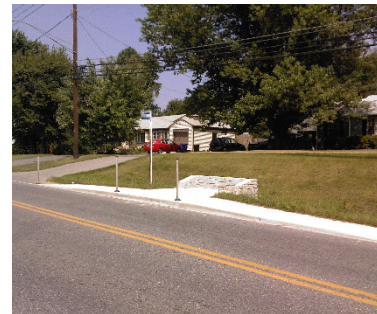
- Implements master plan recommendations for bicycle facilities.
- Serves growing bicycle demand and promotes non-motorized transportation alternatives.
- Works towards providing safe & efficient connectivity to the existing bikeways network.
- Proactively evaluating roadways scheduled for resurfacing to include bicycle accommodations



**Bike Lanes (Residential)
- Calverton Blvd**



**Bikeway with Traffic
Calming Treatment –
Crystal Rock Drive**

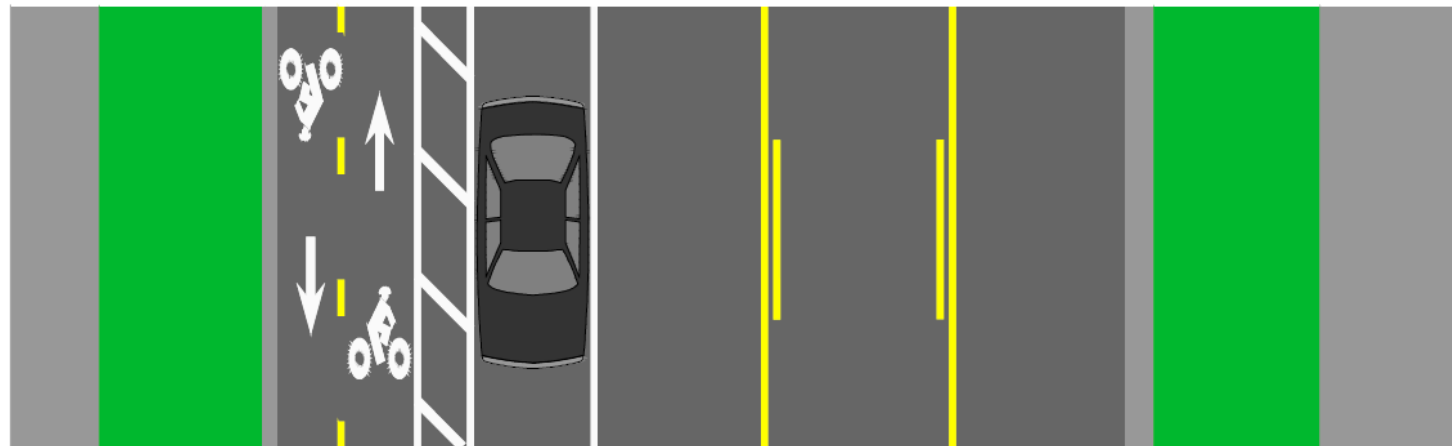
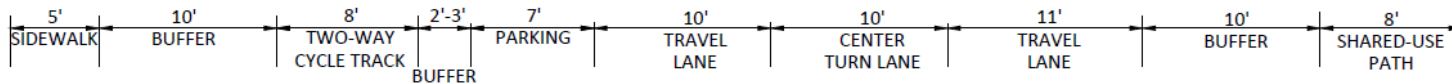
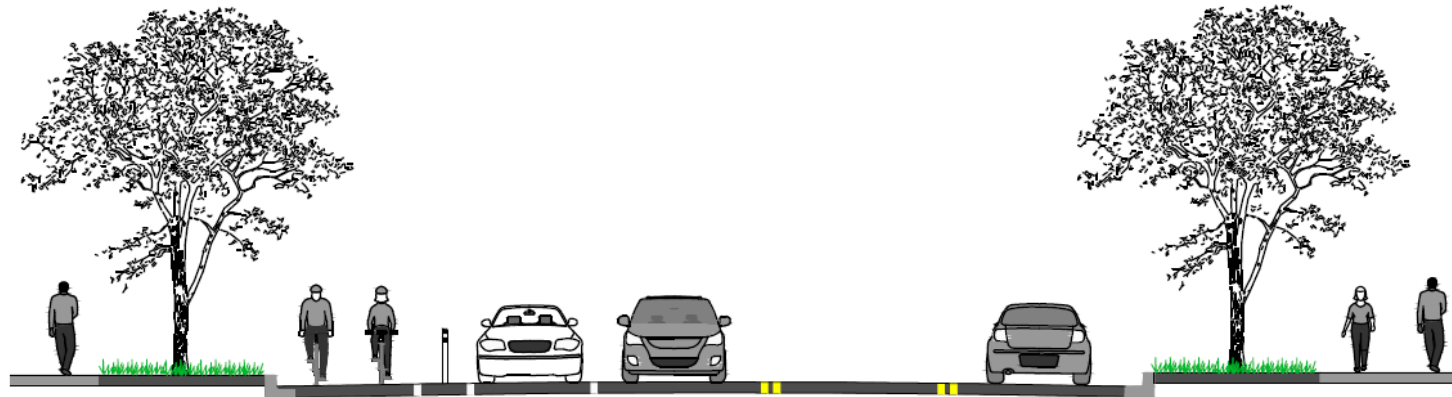


**Bikeway with Bus Stop
Improvement –
Fairland Road**

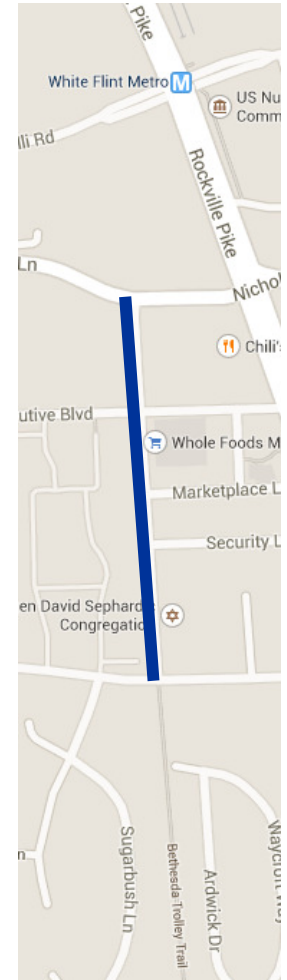


**Bike Lanes (Arterial) –
Shady Grove Road**

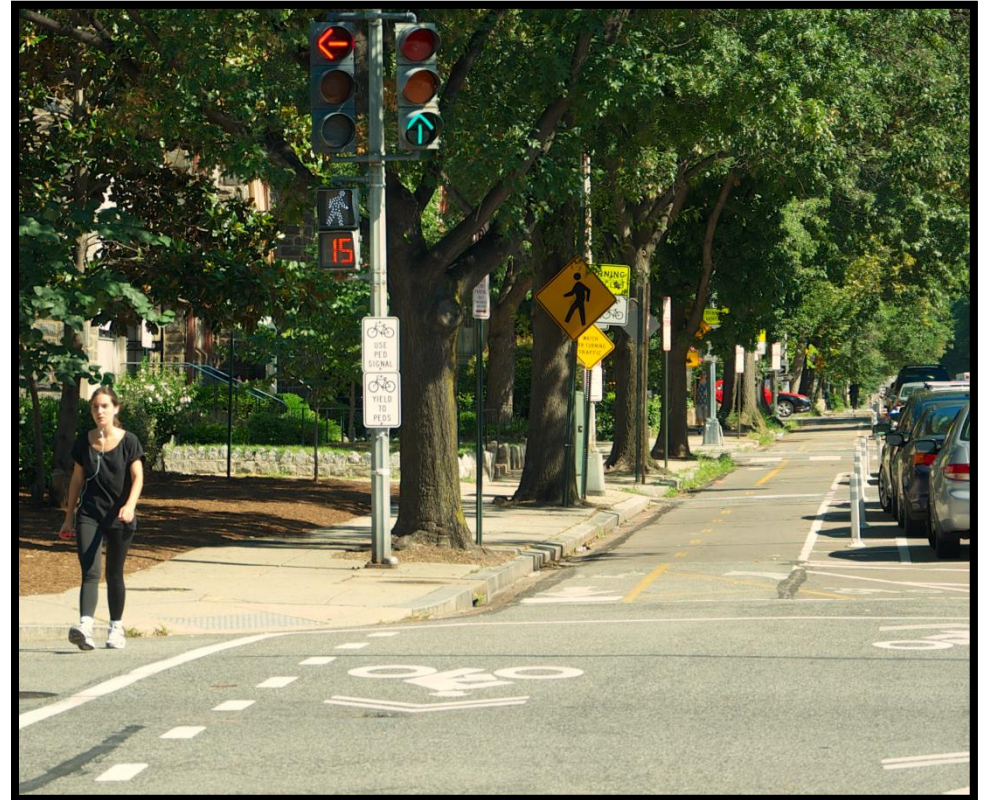
Woodglen Drive Cycle Track: Improving a segment of the Bethesda Trolley Trail



NICHOLSON DRIVE TO EDSON LANE



Woodglen Drive Cycle Track



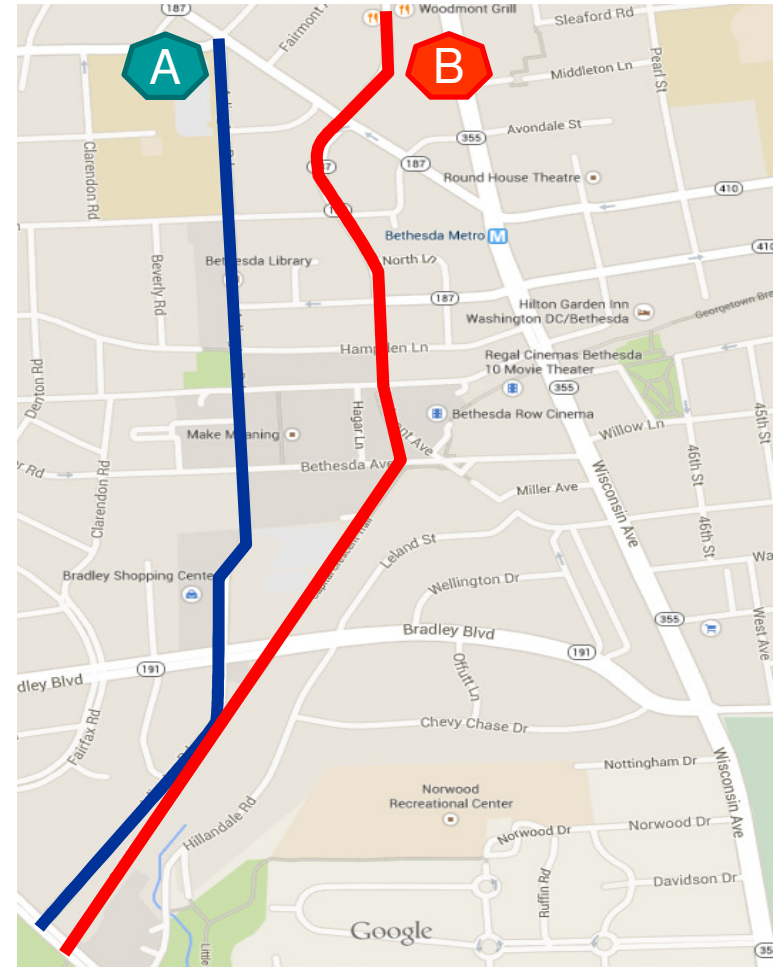
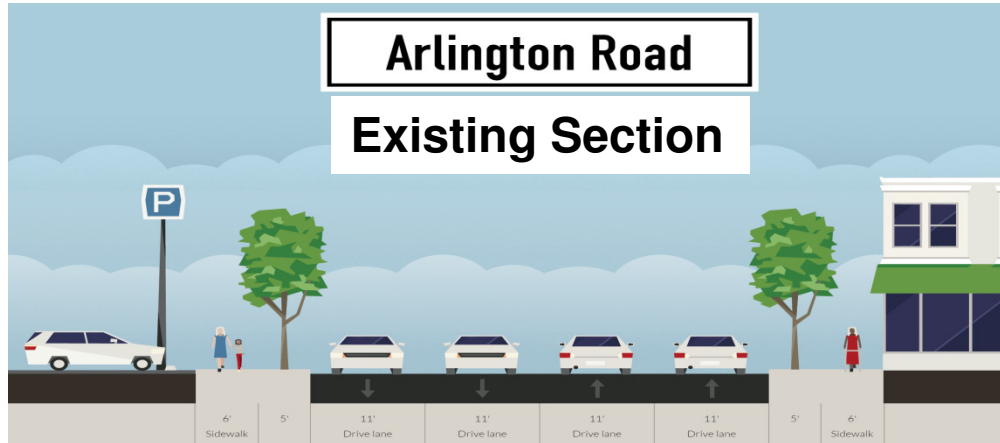
Two-Way Cycle Track, separated by parking, buffer, and flexible posts

Arlington Rd/ Woodmont Ave Evaluation



Evaluated Bicycle Facilities on:

- A. Arlington Road – Substantial Traffic Operations Impacts
- B. Woodmont Avenue – Selected Alternative. Currently Under Design



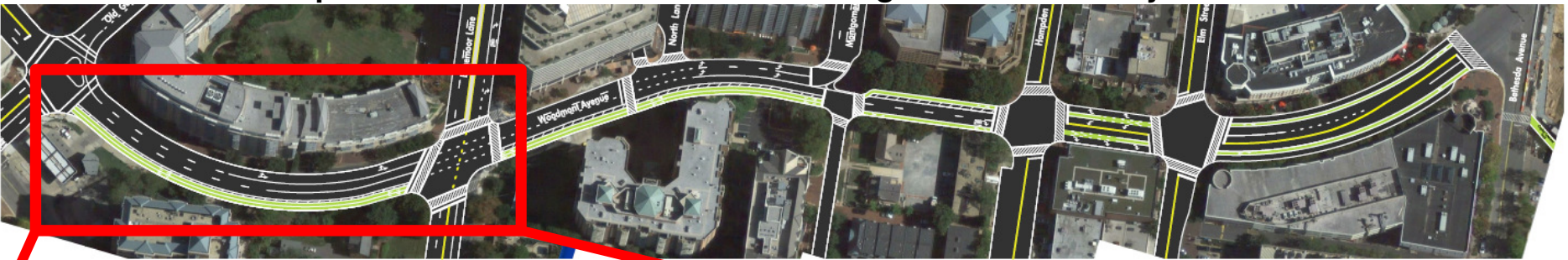
Woodmont Avenue Cycle Track



Existing Woodmont Avenue Lane Configurations



Proposed Woodmont Avenue Lane Configurations – with Cycle Track



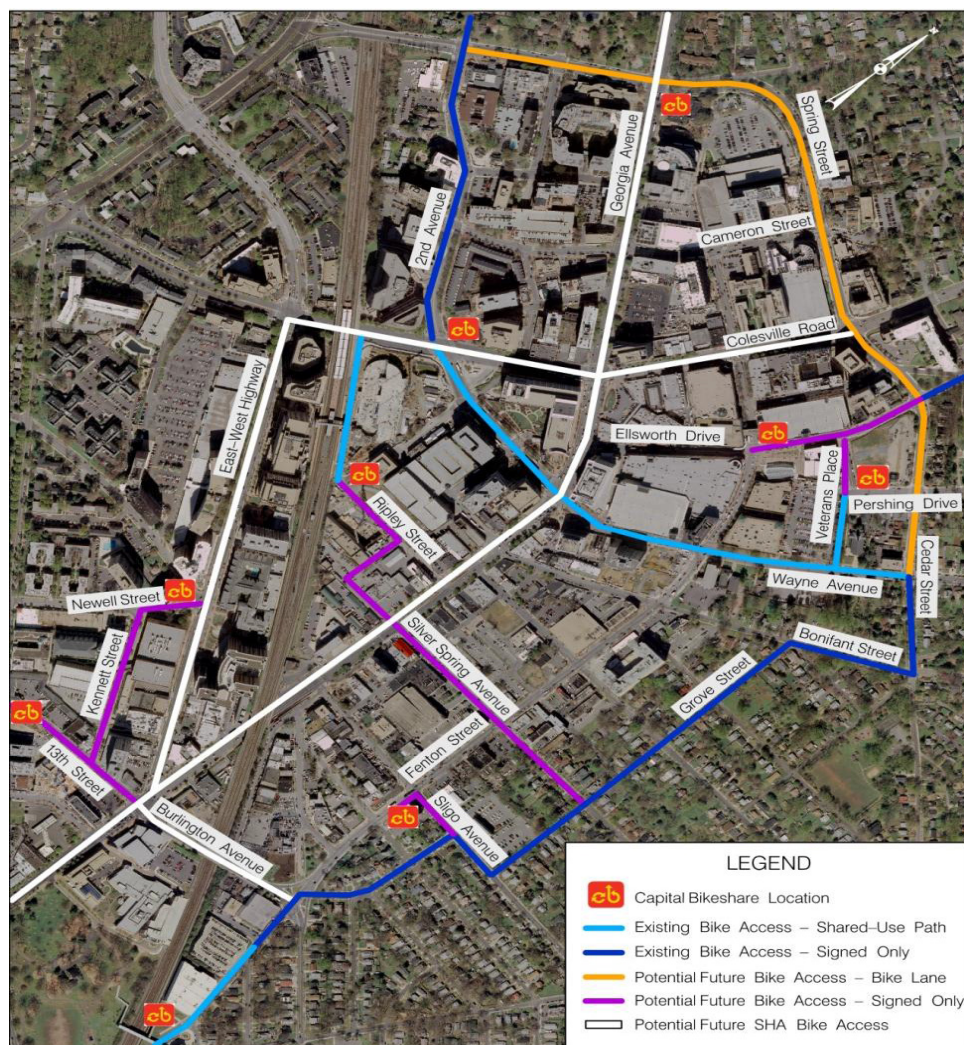
Woodmont Avenue Cycle Track:

- 1.5 Mile Connection
- Capital Crescent Trail to Bethesda CBD and points north
- Removes 1 Lane to create a Two-Way Buffered Cycle Track





Silver Spring Bicycle Network

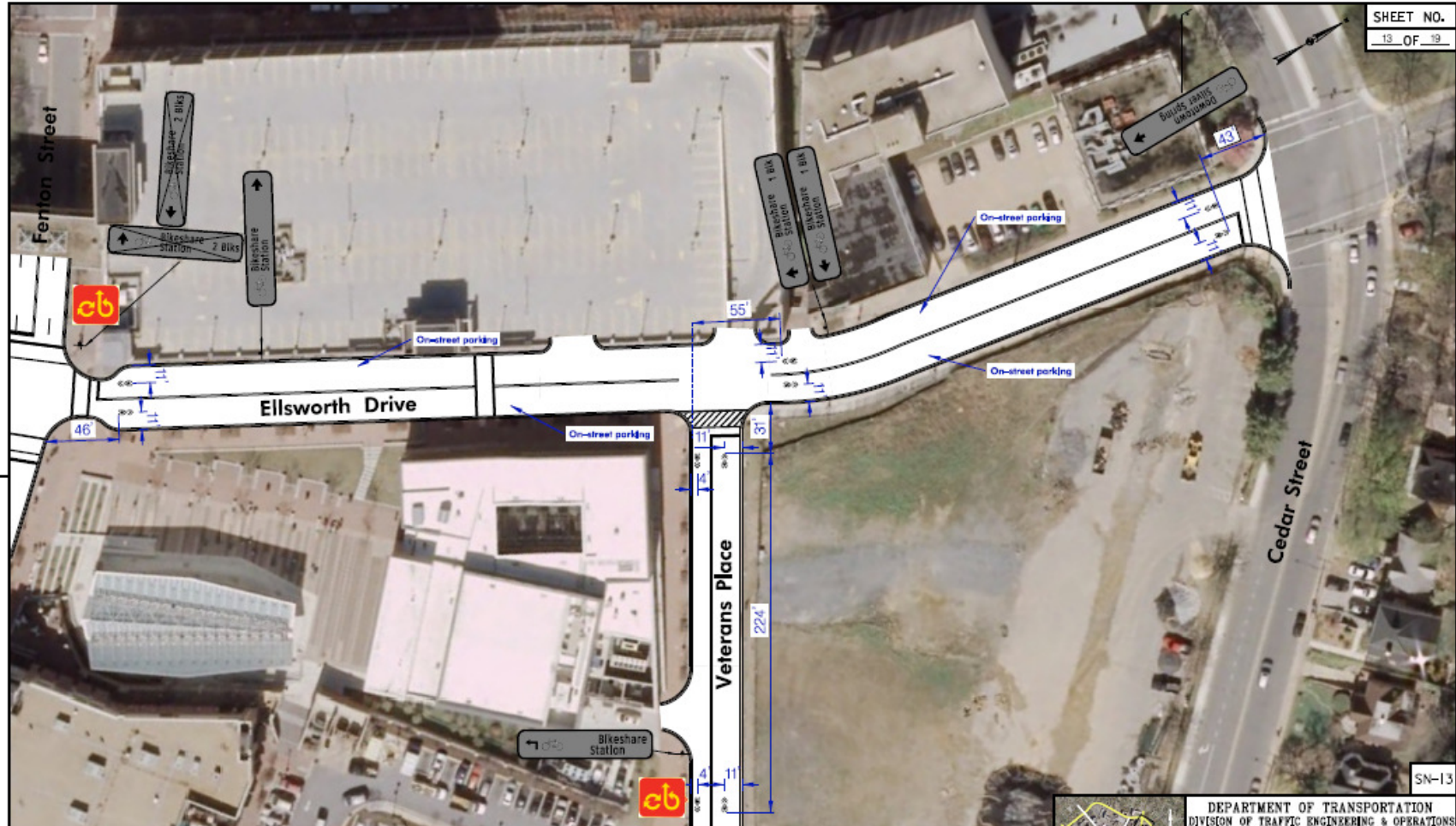


- Identified connections between BikeShare stations
- Evaluated segments for bicycle accommodations
- Sharrows to be installed Fall 2014
- Dedicated bike lanes
 - Striping plans
 - Coordinate w/ resurfacing
- Status
 - MidCounty – complete
 - Silver Spring – in progress
 - Bethesda – evaluations to begin Winter 2014

Silver Spring Bicycle Network



SHEET NO.
13 OF 19



SN-13

GENERAL NOTES

- ALL SIGNS SHALL BE INSTALLED ON SQUARE PERFORATED TUBULAR STEEL SUPPORTS. REFER TO MD STANDARD 802.04 FOR DETAILS.
- ALL NEW BIKE SHARE STATION WAIVERING SIGNAGE SHALL INCLUDE THE CAPITAL BIKE SHARE LOGO.
- SHARED LANE MARKINGS SHALL BE INSTALLED 4 FEET FROM FACE OF CURB FOR LANES 12 FEET WIDE OR GREATER, 11 FEET FROM FACE OF CURB IF ON-STREET PARKING IS PROVIDED, OR CENTER OF LANE FOR LANES LESS THAN 12 FEET WIDE.
- ALL OFFSETS SHALL BE DIMENSIONED FROM FACE OF CURB.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN TO BE INSTALLED ON ONE TUBULAR STEEL SUPPORT

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

CONCEPT PLAN
SHARED LANE MARKINGS
SILVER SPRING, MARYLAND

DESIGNED BY:	BNW	DATE:	AUGUST 2024
DRAWN BY:	BNW	DATE:	AUGUST 2024
CHECKED BY:	CND	DATE:	AUGUST 2024

Sample Implementation Plan

Sharrow Installation



Shady Grove Adventist Hospital – Rockville

- Medical Center Drive
- Broschart Road
- Blackwell Road



Broschart Road



Medical Center Drive

Resurfacing Project Evaluation for Dedicated Bike Lanes



- 26 Corridors Evaluated
- 5 Corridors Selected for Bike Lane Installations
 - Security Lane
 - **Dawson Farm Road**
 - Richter Farm Road
 - Middlebrook Road
 - Seven Locks Road

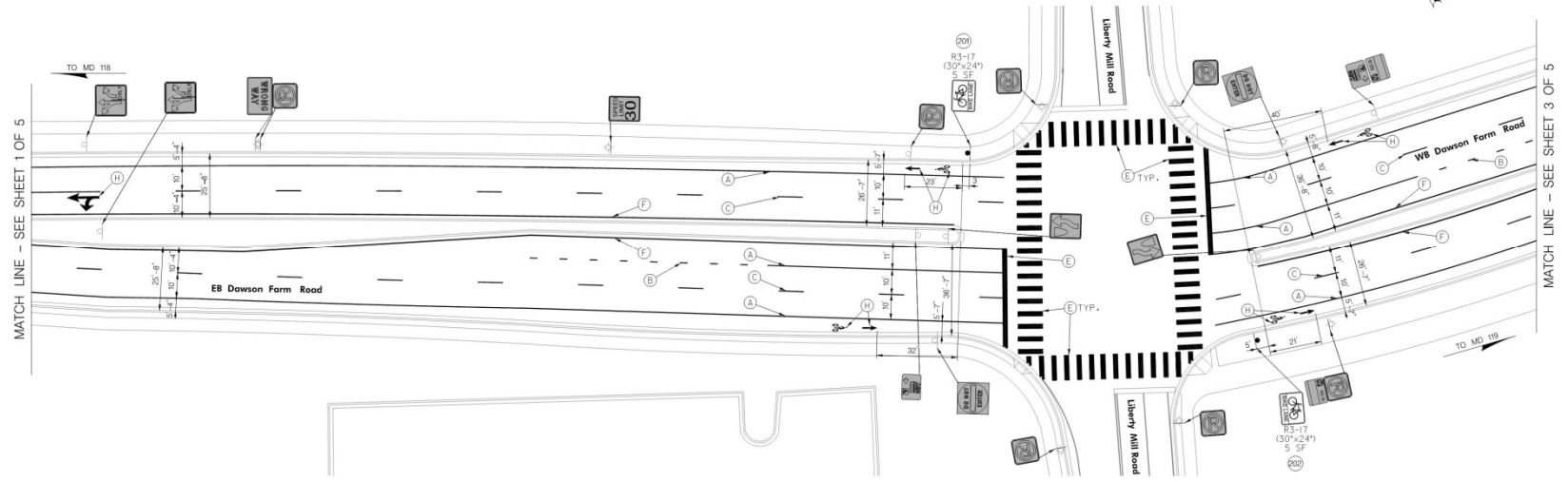
Road	From	To	Segment Distance (mi)	Speed (mph)	LMD/MPDH Classification	Functional	Min. Lane Widths per COMCOR (Code of MC Regs) ¹				Min. Roadway Width (feet to curb)				Median (Y/N)	Parking (Y/N)	2005 Bikeway Functional Master Plan ²	Recommendation	Remarks
							Parking Lane	Bike Lane / Shoulder	Outside Lane	Inside Lane	2-Lane	3-Lane	4-Lane	5-Lane					
Hawthorne Road	Barnesville Road	MD 109	5.53	40	Arterial	N/A	N/A	5'-6"	11'-0"	N/A	11'-0"	N/A	N/A	N/A	N	N	N/A	No Change	This segment has no center line, narrow roadway widths, and poor conditions.
Quince Orchard Road	MD 28	DuPont Mill Road	2.5	30	Arterial	N/A	N/A	5'-6"	11'-0"	11'-0"	11'-0"	10'-0"	10'-0"	10'-0"	Y	N	Existing Off-Road Shared Use Path (Figure 2-13)	No Change	Existing lanes are substandard and there is an existing shared use path along this segment.
Seven Locks Road	Tuckerman Lane	Democracy Boulevard	1.25	35	Arterial	N/A	N/A	5'-6"	11'-0"	11'-0"	11'-0"	11'-0"	11'-0"	11'-0"	Y	N	Major connection from Rockville, Rockville Metro and M&M, to C&D Canal (Towpath); segments of path along west side need to be upgraded to 8' single shoulder space for signed shared roadway or bike lanes between Wootton Parkway and Bradley Lane; Potomac Subregion Master Plan recommends only a shared use path, on-road bikeway is new proposal, actual bikeway type to be determined during facility planning (Table 2-2)	Install bike lanes with transitions at both ends	A 5' bike lane can be provided from Matherhorn Ct to the apartment entrance just south of Tuckerman Ln. There is an intersection improvement project in the works at Tuckerman Ln that could be modified to provide bike lanes at that intersection. A 5' bike lane can be provided from the apartment entrance just south of Tuckerman Ln to Bells Mill Rd and then again from Bells Mill Rd to Matherhorn Ct. At all times the 5' bike lane can not be continuous at Bells Mill Ln since there is an auxiliary lane at that intersection. It needs to be determined if this auxiliary lane can be eliminated to make the 5' bike lane continuous.
Nicholson Lane	MD 355	CLCRA Railroad Bridge	0.5	30	Arterial	N/A	N/A	5'-6"	11'-0"	11'-0"	N/A	N/A	10'-0"	10'-0"	N	N	Proposed Signed Shared Roadway (Figure 2-13)	No Change	The narrow lane widths, high traffic volumes, and roadway geometrics make this segment unsuitable for bike lanes or shared roadways.
Manassas Road	Manassas Mill Road	MD 106	3.55	30	Arterial	N/A	N/A	5'-6"	11'-0"	N/A	11'-0"	10'-0"	10'-0"	N/A	N	N	N/A	No Change	The recommendation is NO due to the narrow roadway widths.
Mid County Highway	Washington Grove Road	Shady Grove Road	1.05	45	Major Highway	N/A	N/A	8'-0"	11'-0"	11'-0"	11'-0"	11'-0"	11'-0"	N/A	Y	N	Shared Use Path (Table 2-2)	No Change	This segment has narrow roadway widths. A Shared Use Path is not part of the scope for this project, but will be considered in a future project.
Hobby Road	Barnhart Road	MD 600	1.3	30	Residential Primary	N/A	N/A	5'-6"	11'-0"	N/A	11'-0"	N/A	N/A	N/A	N	N	N/A	No Change	The recommendation is NO due to the narrow roadway widths.
Good Hope Road	MD 630 (New Hampshire Ave)	MD 106	2.6	30	Residential Primary	N/A	N/A	5'-6"	11'-0"	N/A	11'-0"	10'-0"	N/A	N/A	N	N	Signed Shared Roadway (Table 2-2)	No Change	This segment has narrow roadway widths. A Signed Shared Roadway cannot be installed due to the narrow roadway widths.
Randolph Road	Connecticut Avenue (MD 185)	MD 97 (Georgia Avenue)	1.35	40	Major Highway	N/A	N/A	6'-0"	11'-0"	11'-0"	N/A	11'-0"	10'-0"	11'-0"	Y	N	Shared Use Path (Table 2-2)	No Change	This segment has narrow roadway widths. A Shared Use Path is not part of the scope for this project, but will be considered in a future project.
Middlebrook Road	MD 355 (Frederick Road)	Great Seneca Road	1.45	40	Major Highway	N/A	N/A	6'-0"	11'-0"	11'-0"	N/A	11'-0"	10'-0"	11'-0"	Y	N	Shared Use Path (Table 2-2)	Install 5' Bike Lanes with transitions at both ends	A 5' bike lane can be provided with a 10' Outside Lane, 11' Inside Lane and 11' Inside Lane. Bike Lane can be widened to 10' in most sections with the above mentioned lane widths. Per the COMCOR, only a Bike Lane of 6' or more is accepted on a Major Highway.
Chicago Drive	Way West Avenue	275 Ramp	0.5	35	Arterial	N/A	N/A	5'-6"	11'-0"	11'-0"	11'-0"	10'-0"	10'-0"	N/A	Y	N	N/A	No Change	This segment has narrow roadway widths. Signed Shared Roadway and/or Shared Use Path are not feasible due to the narrow roadway widths, and will be considered in a future project.
Shawnee Drive	Shawnee Drive	Great Seneca Highway	0.3	30	Arterial	N/A	N/A	5'-6"	11'-0"	11'-0"	11'-0"	10'-0"	10'-0"	N/A	Y	N	N/A	No Change	This segment has narrow roadway widths. Signed Shared Roadway and/or Shared Use Path are not feasible due to the narrow roadway widths.
Dawson Farm Road	MD 118 (Germantown Road)	MD 119 (Great Seneca Highway)	0.5	30	Arterial	N/A	N/A	5'-6"	11'-0"	11'-0"	11'-0"	10'-0"	10'-0"	N/A	Y	N	N/A	Install 5' Bike Lanes with transitions at both ends	A 5' bike lane in both directions can be provided with a 10' Outside Lane and 10'-6" Inside Lane.
Richter Farm Road	MD 118 (Germantown Road)	MD 119 (Great Seneca Highway)	0.75	35	Arterial	N/A	N/A	5'-6"	11'-0"	11'-0"	11'-0"	10'-0"	10'-0"	N/A	Y	N	Shared Use Path (Table 2-2)	Install 5' Bike Lanes with transitions at both ends	A 5' bike lane in both directions can be provided with a 10' Outside Lane and 11' Inside Lane.
Greenyard Drive	Mattney Road	MD 119 (Great Seneca Highway)	0.55	30	Arterial/Residential Primary	8'-0"	6'-6"	10'-0"	N/A	N/A	10'-0"	N/A	N/A	N/A	N	Y	N/A	No Change	This segment has narrow roadway widths and unmarked parking along both sides of the roadway. Signed Shared Roadway and/or Shared Use Path are not feasible due to the narrow roadway widths, and will be considered in a future project.
Woodlawn Drive	Nicholson Lane	Sutton Lane	0.3	30	Business	8'-0"	6'-6"	11'-0"	N/A	N/A	10'-0"	10'-0"	N/A	N/A	N	Y	N/A	No Change	There is a different Montgomery County project in the works at this location. Shared Use Path is NOT recommended at this facility for the same reason.
Sagebrush Lane	Tuckerman Lane	Shawnee Lane	0.42	30	Residential Primary	8'-0"	6'-6"	11'-0"	N/A	N/A	10'-0"	N/A	N/A	N/A	N	Y	N/A	No Change	This segment has unmarked and marked parking on both sides of the road, along with narrow roadway widths. Shared Use Path is NOT recommended at this facility because of insufficient roadway width to provide a wide outside lane in.

Road	From	To	Speed Limit (mph)	MPOH Functional Classification	Min. Lane Widths per COMCOR (Code of MC Regs) ¹				Median (Y/N)	Parking (Y/N)	Recommendation	Remarks
					Parking Lane	Bike Lane / Shoulder	Outside Lane	Inside Lane				
Dawson Farm Road	MD 118 (Germantown Road)	MD 119 (Great Seneca Highway)	30	Arterial	N/A	5'-6"	10'-0"	11'-0"	Y	N	Install 5' Bike Lanes with transitions at both ends	A 5' Bike Lane in both directions can be provided with a 10' Outside Lane and 10'-6" Inside Lane

Resurfacing Project Evaluation for Bike Lanes

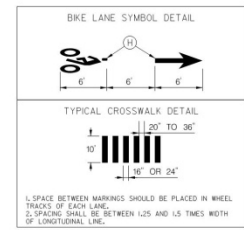


SHEET NO.
2 OF 5



- PAVEMENT MARKING LEGEND**
- (A) 5" SOLID WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
 - (B) 5" WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (3' STRIPE/9' GAP/3' STRIPE)
 - (C) 5" WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (10' STRIPE/30' GAP/10' STRIPE)
 - (D) 16" WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
 - (E) 24" WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
 - (F) 5" SOLID YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
 - (G) 5" SOLID DOUBLE YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
 - (H) WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS

- GENERAL NOTES**
1. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING MONTGOMERY COUNTY STANDARD TYPICALS FOR TRAFFIC CONTROL.
 2. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH MSHA STANDARDS.
 3. ALL CROSSWALKS SHALL BE 10' WIDE AND STOP LINES SHALL BE 4' BEHIND CROSSWALK.
 4. THE CONTRACTOR SHALL CENTER THE PROPOSED CROSSWALK ON THE EXISTING SIDEWALK RAMPS.



SIGNING LEGEND	
SYMBOL	DESCRIPTION
	EXISTING GROUND MOUNTED SIGN AND SUPPORT(S)
	PROPOSED GROUND MOUNTED SIGN AND SUPPORT(S)
	EXISTING SIGN BANDED TO LIGHT POLE
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	PROPOSED SIGN TO BE INSTALLED

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: BMW	DATE: JULY 2014
DRAWN BY: BMW	DATE: JULY 2014
CHECKED BY: SDY	DATE: JULY 2014
DRAWING NO.:	
Approved:	
Chief, Division of Traffic Engineering and Operations	
Reviewed:	
Manager, Transportation Systems Engineering	
Reviewed:	
Manager, Traffic Engineering Studies Section	
Recommended:	
Engineer, Transportation Systems Engineering	

SN-2

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

SIGNING AND MARKING PLAN
DAWSON FARM ROAD:
FROM MD 118 (GERMANTOWN ROAD)
TO MD 119 (GREAT SENECA HIGHWAY)

SCALE: 1" = 20'

Sample Installation Plan

Bike Lanes and Resurfacing Project Progress



Dawson Farm Road



Before



After

Richter Farm Road



Before



After

Annual Sidewalk, ADA & Bus Stop Programs



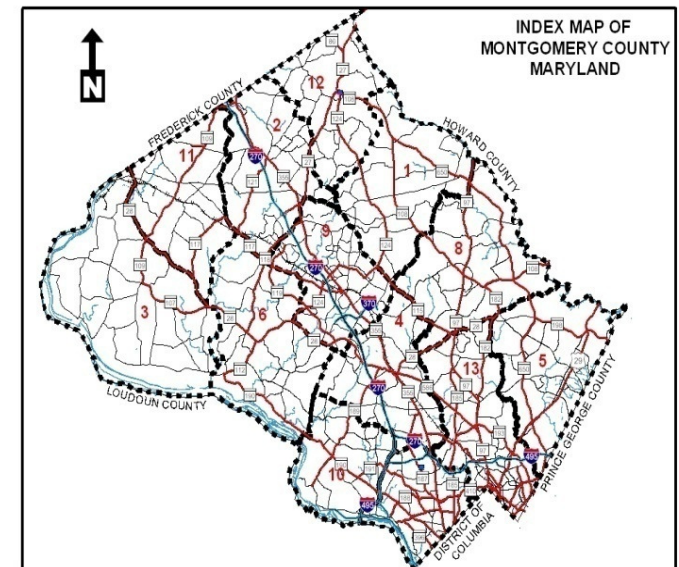
- Construction of new sidewalks, reconstruction of existing sidewalks and ramps to meet ADA requirements and construction of bus stops

FY 14 – Totals:

Sidewalk- 20,505 linear feet (**3.88 Miles**).

ADA- Reconstructed **13,065** linear feet (**2.47 Miles**) of non-compliant sidewalk and ramps to meet ADA specifications.

Bus Stop- 5,756 linear feet (**1.09 Miles**) of new sidewalk and 9,028 square feet of concrete bus stop pads.

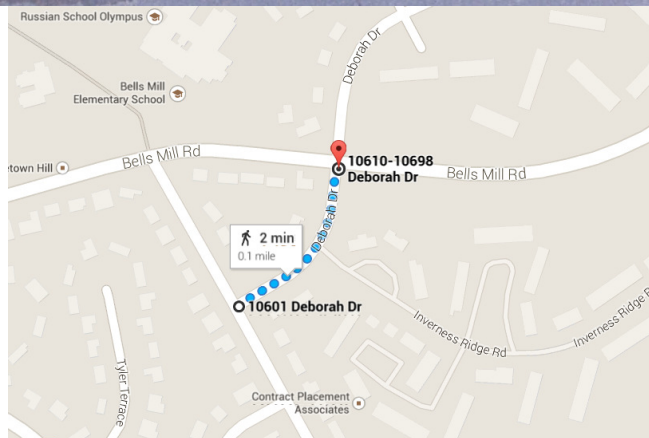




Deborah Drive
530 ft of new sidewalk Democracy
Lane to
Bells Mill Road



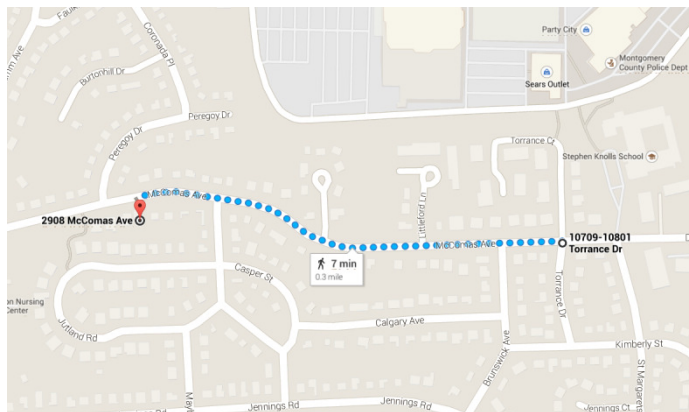
Before



After



McComas Avenue
1600 ft of new sidewalk 2908
McComas Avenue to
Torrance Drive



Pedestrian Safety Program

- Engineering

- Education



- ***Enforcement***

Enforcement Overview



- Team Approach
 - Increase citizen contacts
 - Officer safety
- Highly motivated officers
- Identify times and locations based on crash data
 - High Incidence Areas
 - Crosswalk stings
- Both pedestrians and drivers are charged
- Tickets not warnings

High Incidence Areas: Enforcement Efforts



(March 2013 – December 2013)

- 197 warnings
- 792 citations
 - 212 driver citations
 - 580 pedestrian citations

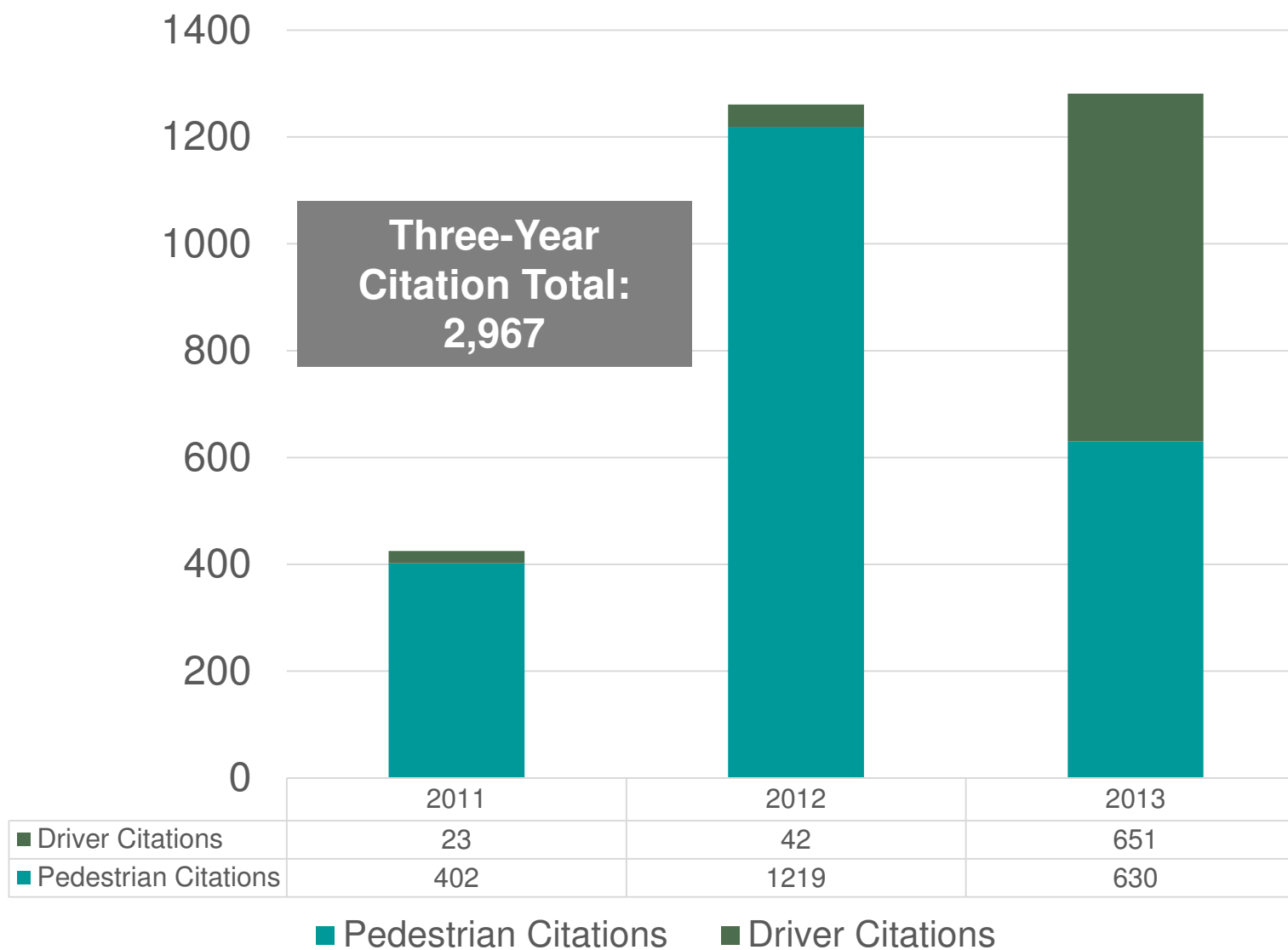


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Enforcement Activity by HIA		
<u>Location</u>	<u>Citations</u>	<u>Warnings</u>
Colesville Road	80	2
Connecticut Avenue	202	54
Fenton Street	11	7
Four Corners	72	45
Georgia Avenue	69	0
Old Georgetown Avenue	48	18
Piney Branch Road	149	34
Randolph Road	120	16
Reedie Drive	14	1
Rockville Pike	27	20



Pedestrian and Driver Citations, 2011-2013



Enforcement (Continued)



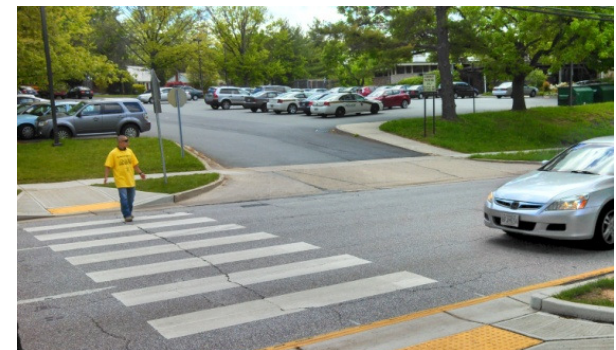
- Pedestrian Violations

- Midblock crossing
- Crossing against the signal
- Crossing unsafely



- Driver Violations

- Failing to yield right of way in crosswalk
- Failing to yield on left and right turns
- Speed enforcement



Crosswalk Stings



Crosswalk Stings

